



REMARKS

In the Office Action mailed January 15, 2002, the Examiner suggests that claims 1-3 are anticipated by U.S. Patent No. 3,747,625 to Reilly. In the present amendment, Applicant has cancelled claims 1 and 2 and inserted new claims 4 – 8. New claim 4 is a clarified and rewritten version of claims 1 and 2. New claim 5 is directed to a combination of a gas controller, mold cavity and valve. Finally, new claims 6 – 8 are method claims directed to the operation of the valve of the present invention.

Reilly discloses a quick exhaust valve for use in the uncontrolled and rapid venting of a mold cavity. Reilly also discloses the use of a piston 50. However, Reilly clearly does not anticipate the use of a balanced piston or a gas controller for use in the controlled venting of the mold cavity.

In blow molding operations of the type disclosed by Reilly, product throughput is affected by the speed in which a part is pressurized, cooled, depressurized and ejected. The time required to eject a part from a mold has a significant effect on the overall cycle time of the part. The pressures used in blow molding operations are also quite low when compared to those for gas assist molding. Indeed, unlike gas assist operations, in blow molding there is typically a rather low pressure difference between the part volume and the atmosphere. Therefore, in blow molding operations it is very advantageous to have a valve that opens quickly and rapidly depressurizes the mold cavity.

In contrast to Reilly, the claims of the present application define the use of a piston that is moveable between a first and a second position. The piston is balanced such that the piston position in the regulator body may be easily adjusted by increases or decreases in fluid pressure from the gas controller.

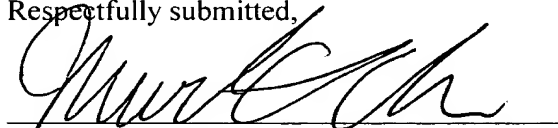
Using a gas controller, a user of the present invention can place the piston in a first position wherein the exhaust vent is closed, a second position, or an intermediate position. More specifically, Applicant's use of the piston permits the upstream gas controller to increase, hold, decrease or depressurize the mold cavity through adjustments in the fluid pressure in a manner that makes the valve transparent to a gas assist process and at the same time prevents backflow of particulate and plastic vapors through the controller. This ability to control venting has significant advantages in the gas assist technology art where rapid venting of the mold is discouraged due to the higher pressures involved compared to blow molding. Reilly clearly does not disclose Applicant's use of a piston or the control of piston position through the use of a gas controller.

In response to the Notice of Draftsperson's Patent Drawing Review, we submit the formal drawings to meet the requirements outlined in Form PTO 948.

Therefore, in view of the above amendments and remarks, Applicant submits that the application is now in proper form for allowance. Such action is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with Markings to Show Changes Made."

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 1 and 2 have been canceled.

Claim 3 has been amended as follows:

- 1 3. (Amended) The valve of claim [1] 4, further comprising a connector,
- 2 said connector fluidly communicating said check valve with said gas outlet.

New claims 4-8 have been added.

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